

Figure 15C

REPLACEMENT SHEETS
EXPRESS Mail No.: EV767822197US
Title: TARGETED GLYCOSAMINOGLYCAN POLYMERS BY POLYMER
GRAFTING AND METHODS OF MAKING AND USING SAME
Inventors: Paul L. DeAngelis et al.
Inventors: Paul L. DeAngelis et al.
Filed: Herewith
Agent: Kathryn L. Hester
SHEET 18 OF 41

Deposited: 03/08/2007
Formal Drawings

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Published research using this software should cite.
Multiple sequence alignment with hierarchical clustering
F. CORPET, 1988, Nucl. Acids Res., 16 (22), 10881-10890
Symbol comparison table: blosum62
Gap weight: 12
Gap length weight: 2
Consensus levels: high=90% low=50%
Consensus symbols:
 ! is anyone of IV
 $ is anyone of LM
 * is anyone of FY
 # is anyone of NDQEBZ
         651
                Check:
```

Name: A Len: 651 Check: 612 Weight: Name: B Len: 651 Check: 249 Weight: 0.58 Name: pglA Len: 651 Check: 7677 Weight: Name: DcbF Len: 651 Check: 7537 Weight: Name: Consensus Len: 651 Check: 5816 Weight: 0.00

> MSLFKR ATELFKSGNY KDALTLYENI A2 B10 pgla MKRKKEMTQK QMTKNPPQHE KENELNTFQN KIDSLKTTLN KDIISQOTLL DcbF\$slFkr at#lfKsgny KDaltlyeni sensus A2 AKIYG....S ESLVKYNIDI CKK.NITQSK SNKIEEDNIS GENKF..... B10 AKIYG....S ESLVKYNIDI CKK.NITOSK SNKIEEDNIS GENKF..... pglA AKQDSKHPLS ASLENENKLL LKQLQLVLQE FEKIYTYNQA LEAKLEKDKQ Dcbf AKIYG....S ESLVKYNIDI CKK.NITQSK SNKIEEDNIS GENEF..... Consensus AKiyg....S eSLvkyNidi cKk.#itqsk s#KIeedNis gEnkf..... A2 SVSIKDLYNE ISNSELGITK ERLGAPPLVS IIMTSHNTEK FIEASINSLL B10 SVSIKDLYNE ISNSELGITK ERLGAPPLVS IIMTSHNTEK FIEASINSLL TTSITDLYNE VAKSDLGLVK ETNSVNPLVS IIMTSHNTAQ FIEASINSLL DcbF SVSIKDLYNE ISNSELGITK ERLGAPPLVS IIMTSHNTEK FIEASINSLL Consensus svSIkDLYNE !snS#LGitK ErlgapPLVS IIMTSHNTek FIEASINSLL LOTYNNLEVI VVDDYSTDKT FQIASRIANS TSKVKTFRLN SNLGTYFAKN A2 B10 LQTYNNLEVI VVDDYSTDKT FQIASRIANS TSKVKTFRLN SNLGTYFAKN pgla LQTYKNIEII IVDDDSSDNT FEIASRIANT TSKVRVFRLN SNLGTYFAKN Dcbf LQTYNNLEVI VVDDYSTDKT FQIASRIANS TSKVKTFRLN SNLGTYFAKN Consensus LQTYnNlE!I !VDDyStDkT F#IASRIANs TSKVktFRLN SNLGTYFAKN

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Filed: Herewith Examiner: N. Nashed
Agent: Kathryn L. Hester Dkt. No.: 35542.097
SHEET 19 OF 41

Fig. 15C cont'd

				·	0.50
201					250
A2	TGILKSKGDI			ALLSNKDNIA	
B10	TGILKSKGDI	IFFQDSDDVC	HHERIERCVN	ALLSNKDNIA	VRCAYSRINL
pglA	TGILKSKGDI	IFFODSDDVC	HHERIERCVN	ILLANKETIA	VRCAYSRLAP
DcbF	TGILKSKGDI			ALLSNKDNIA	
Consensus	TGILKSKGDI			aLLsNK#nIA	
Consensus	IGITV2VGDI	TEEODSDDAC	UNEXIERCAN	GTTRNV#IIIW	VACAISAIIII
	251			•	300
A2				GFFNCTTKAS	
B10	ETONIIKVND	NKYKLGLITL	GVYRKVFNEI	GFFNCTTKAS	DDEFYHRIIK
·pglA				GFFNCTTKGS	
DcbF				GFFNCTTKAS	
Consensus	_				
Consensus	EI GUTTVAN#	UKIKEGIITE	GANKWAL #FI	GFFNCTTKaS	DDELAUKTIK
			•		
	301	•			350
A2	YYGKNRINNL	FLPLYYNTMR	EDSLFSDMVE	WVDENNIKOK	TSDARQNYLH
B10	YYGKNRINNL	FLPLYYNTMR	EDSLFSDMVE	WVDENNIKQK	TSDARQNYLH
pglA	YYGKEKIKNL	LLPLYYNTMR	ENSLFTDMVE	WIDNHNIIOK	MSDTRQHYAT
DcbF		FLPLYYNTMR			TSDARONYLH
Consensus		fLPLYYNTMR			tSDaRQnYlh
Consensus	TIGENTINE	TEPETINIMA	E#SPESDWAE	M : D#IIMI KOV	CODEVALLTI
					400
	351				400
· A2	EFQKIHNERK	LNELKEIFSF	PRIHDALPIS		IPVYINICSI.
B10		LNELKEIFSF		KEMSKLSNPK	IPVYINICSI
pglA	LFQAMHNETA	SHDFKNLFQF	PRIYDALPVP	QEMSKLSNPK	IPVYINICSI
DcbF		FNELKEIFSF		KEMSKLSNPK	IPVYINICSI
Consensus		.n#lK#iFsF			IPVYINICSI
Compensus	CI GYTHIAT Y	***********	11/11/01/01	ALIDIALONI I	22 - 12 - 12 - 12 - 12 - 12 - 12 - 12 -
	401	•		•	450
20		T C 1 T 1 T 1 T 1 T 1 T 1 T 1 T 1 T 1 T	BUTTER DOUDE	UDDETIGE ON	
A2					KATVINCONK
B10					KATVINCQNK
pglA	PSRIAQLRRI	IGILKNQCDH	FHIYLDGYVE	IPDFIKNLGN	KATVVHCKDK
DcbF	PSRIKQLQYT	IGVLKNQCDH	FHIYLDGYPE	VPDFIKKLGN	KATVINCONK
Consensus	PSRIkQLavt	IG!LKNQCDH	FHIYLDGYpE	! PDFIKkLGN	KATV!nCq#K
					•
	451	•		•	500
A2		TT.T.PRT.TRPN	KDCVVITCDD	DIRYPADYTN	TMIKKINKYN
B10	•			DIRYPADYIN	
	NESIRDNGKF				TMIKKINKYN
pglA	DNSIRDNGKF	,	_	DIIYPSDYIN	TMIKKLNEYD
DcbF	NESIRDNGKF	ILLEKLIKEN	KDGYYITCDD	DIRYPADYIN	TMIKKINKYN
Consensus	##SIRDNGKF	ILLEkLIkeN	kDGYYITCDD	DIrYPaDYiN	TMIKK1NkY#
•		•			•
	501				550
A2		TEDGRUNKYE	SCORTWANTO	KPI.ENDTAVN	ILGTGTVAFR
B10					ILGTGTVAFR
	DKAVIGLHGI				
DcbF					
Consensus	DKAaIGLHG!	iFPSRvnKYF	SsDRiVYnFq	Kplekd.avn	.lgtgtv.fr
			•		•
•					600
•	551				000
A2		DFEHPGMVDI	YFSILCKKNN	ILOVCISRPS	
A2 B10	VSIFNKFSLS				NWLTEDNKNT
B10	VSIFNKFSLS VSIFNKFSLS	DFEHPGMVDI	YFSILCKKNN	ILQVCISRPS	NWLTEDNKNT NWLTEDNKNT
B10 pglA	VSIFNKFSLS VSIFNKFSLS VSLFNQFSLS	DFEHPGMVDI DFTHSGMADI	YFSILCKKNN YFSLLCKKNN	ILQVCISRPS ILQICISRPA	NWLTEDNKNT NWLTEDNKNT NWLTEDNRDS
B10 pglA DcbF	VSIFNKFSLS VSIFNKFSLS VSLFNQFSLS	DFEHPGMVDI DFTHSGMADI	YFSILCKKNN YFSLLCKKNN	ILQVCISRPS ILQICISRPA	NWLTEDNKNT NWLTEDNKNT NWLTEDNRDS
B10 pglA	VSIFNKFSLS VSIFNKFSLS VSLFNQFSLS	DFEHPGMVDI DFTHSGMADI	YFSILCKKNN YFSLLCKKNN	ILQVCISRPS ILQICISRPA	NWLTEDNKNT NWLTEDNKNT NWLTEDNRDS

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SHEET 20 OF 41

Fig. 15C cont'd

A2 B10 pg1A DcbF Consensus	ETLFHEFQNR ETLYHQYRDN	DEIQSKLIIS DEQQTQLIME	NNPWGYSSIY NGPWGYSSIY	PLLNNNANYS PLVKNHPKFT	DLIPCLPFYF
A2 B10 pglA DcbF Consensus	651 E E L				

Figure 15D

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Published research using this software should cite
Multiple sequence alignment with hierarchical clustering
F. CORPET, 1988, Nucl. Acids Res., 16 (22), 10881-10890
Symbol comparison table: blosum62
Gap weight: 12
Gap length weight: 2
Consensus levels: high=90% low=50%
Consensus symbols:
 ! is anyone of IV
$ is anyone of LM
% is anyone of FY
 # is anyone of NDQEBZ
MSF:
        651
               Check: 0
Name: pmHS
                            651 Check: 612 Weight: 0.75
                   Len:
                            651 Check: 7677 Weight: 0.75
Name: pglA
                     Len:
Name: DcbF
                    Len:
                            651 Check: 7537 Weight: 1.49
                            651 Check: 5816 Weight: 0.00
```

· Len:

Name: Consensus

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....MSLFKR ATELFKSGNY KDALTLYENI DMHS MKRKKEMTOK OMTKNPPOHE KENELNTFON KIDSLKTTLN KDIISQOTLL pglA\$slFkr at#lfKsgny KDaltlyeni Consensus pmHS AKIYG....S ESLVKYNIDI CKK.NITQSK SNKIEEDNIS GENKF..... pgla AKQDSKHPLS ASLENENKLL LKQLQLVLQE FEKIYTYNQA LEAKLEKDKQ DCbf AKIYG....S ESLVKYNIDI CKK.NITQSK SNKIEEDNIS GENEF..... Consensus AKiyg....S eSLvkyNidi cKk.#itqsk s#KleedNis gEnkf.... 101 pmHS SVSIKDLYNE ISNSELGITK ERLGAPPLVS IIMTSHNTEK FIEASINSLL TTSITDLYNE VAKSDLGLVK ETNSVNPLVS IIMTSHNTAQ FIEASINSLL pqlA SVSIKDLYNE ISNSELGITK ERLGAPPLVS IIMTSHNTEK FIEASINSLL DcbF Consensus svSIkDLYNE !snS#LGitK ErlgapPLVS IIMTSHNTek FIEASINSLL LOTYNNLEVI VVDDYSTDKT FQIASRIANS TSKVKTFRLN SNLGTYFAKN SHmq pglA LQTYKNIEII IVDDDSSDNT FEIASRIANT TSKVRVFRLN SNLGTYFAKN LOTYNNLEVI VVDDYSTDKT FQIASRIANS TSKVKTFRLN SNLGTYFAKN LOTYNNLE!I !VDDYSTDKT F#IASRIANS TSKVKTFRLN SNLGTYFAKN DcbF Consensus pmHS TGILKSKGDI IFFQDSDDVC HHERIERCVN ALLSNKDNIA VRCAYSRINL TGILKSKGDI IFFQDSDDVC HHERIERCVN ILLANKETIA VRCAYSRLAP DcbF 1 TGILKSKGDI IFFQDSDDVC HHERIERCVN ALLSNKDNIA VRCAYSRINL Consensus TGILKSKGDI IFFQDSDDVC HHERIERCVN aLLsNK#nIA VRCAYSRinl ETQNIIKVND NKYKLGLITL GVYRKVFNEI GFFNCTTKAS DDEFYHRIIK pmHS pgla ETQHIIKVNN MDYRLGFITL GMHRKVFQEI GFFNCTTKGS DDEFFHRIAK Dcbf ETQNIIKVND NKYKLGLITL GVYRKVFNEI GFFNCTTKAS DDEFYHRIIK Consensus ETQnIIKVN# nkYkLGlITL GvyRKVF#EI GFFNCTTKaS DDEF%HRIIK

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SHEET 22 OF 41 Formal Drawings

Figure 15D cont'd

pmHS pglA DcbF Consensus	YYGKEKIKNL YYGKNRINNL	LLPLYYNTMR FLPLYYNTMR	ENSLFTDMVE EDSLFSDMVE	WADENNIKOK MADENNIKOK	350 TSDARQNYLH MSDTRQHYAT TSDARQNYLH tSDaRQnYlh
pmHS pglA DcbF Consensus	LFQAMHNETA EFQKIHNERK	LNELKEIFSF SHDFKNLFOF FNELKEIFSF .n#1K#1FSF	PRIYDALPVP PRIHDALPIS	QEMSKLSNPK KEMSKLSNPK	400 IPVYINICSI IPVYINICSI IPVYINICSI IPVYINICSI
pmHS pglA DcbF Consensus	401 PSRIKOLQYT PSRIAOLRRI PSRIKOLQYT PSRIKOLQYT	IGVLKNQCDH IGILKNQCDH IGVLKNQCDH IG!LKNQCDH	FHIYLDGYVE FHIYLDGYPE	VPDFIKKLGN IPDFIKNLGN VPDFIKKLGN !PDFIKKLGN	450 KATVINCQNK KATVVHCKDK KATVINCQNK KATV!nCq#K
pmHS pglA DcbF Consensus	DNSIRDNGKF NESIRDNGKF	ILLEKLIKEN ILLEKLIKEN ILLEKLIKEN	QDGYYITCDD KDGYYITCDD	DIIYPSDYIN DIRYPADYIN	500 TMIKKINKYN TMIKKLNEYD TMIKKINKYN TMIKKINKY#
pmHS pglA DcbF Consensus	DKAVIGLHGI DKAAIGLHGV	IFPSRVNKYF LFPSRMTKYF IFPSRVNKYF iFPSRVNKYF	SADRLVYSFY SSDRIVYNFQ	KPLEKDKAVN KTFRK	550 ILGTGTVAFR VLGTGTVSFR
pmHS pglA DcbF Consensus	VSLFNQFSLS	DFEHPGMVDI DFTHSGMADI df.h.gm.di	YFSLLCKKNN	ILQICISRPA	600 NWLTEDNKNT NWLTEDNRDS nwltedn
pmHS pglA DcbF Consensus	ETLYHQYRQN	DECOTOLIME	NGPWGYSSIY	PLVKNHPKFT	650 ELIPCLSFYN DLIPCLPFYF
pmHS pglA DcbF Consensus	651 E L				